

FIG. 1

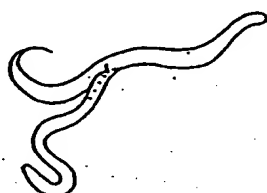
intact  
approaches vulva



stops at vulva



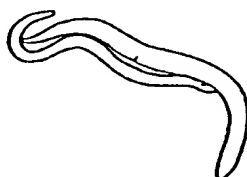
inserts spicules and transfers sperm



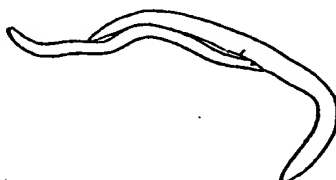
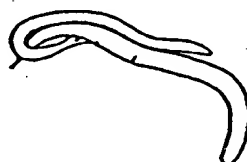
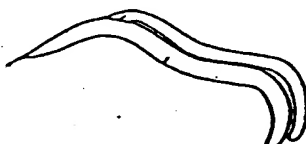
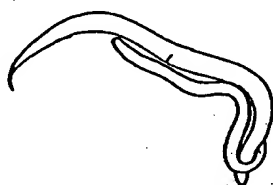
hook: ablated  
approaches vulva



passes vulva



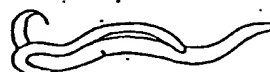
circles hermaphrodite



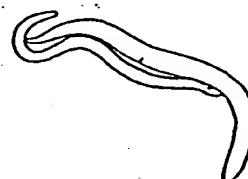
initiates a slow search for the vulva using  
the p.c.s. and spicules ( $t=300s$ )



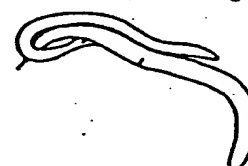
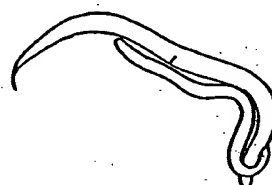
*lov-1(sy552)*  
approaches vulva



passes vulva



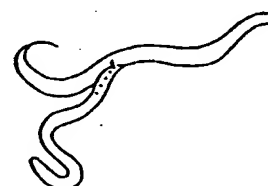
circles hermaphrodite



stops at vulva



inserts spicules and transfers sperm



009070"29462460

Figure 2

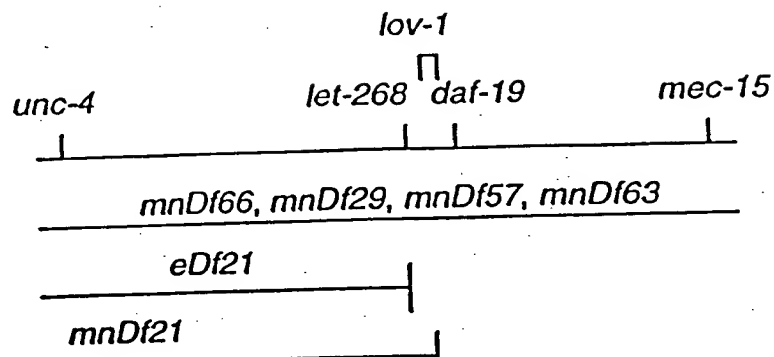
A. *lov-1(sy552)* rescue data

0.1 map unit

Rescue

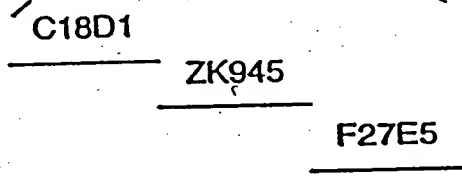
*lov-1(sy552)*

genetic map



physical map

cosmids:

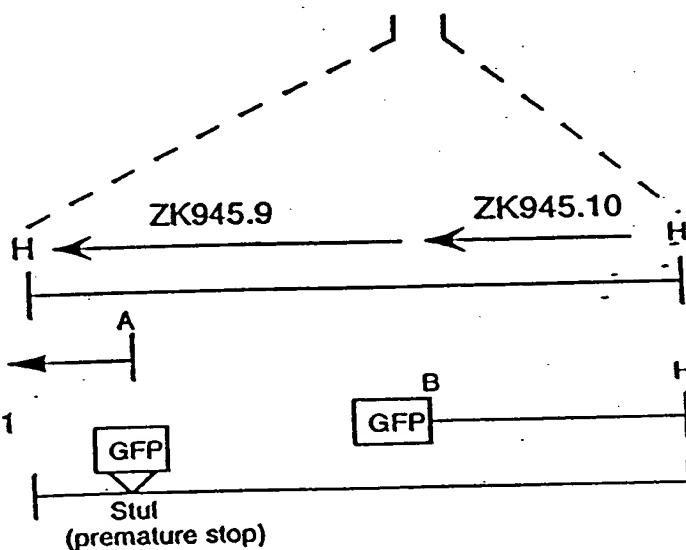


plov-1.1

plov-1.2

plov-1::GFP1

plov-1.3



-

+

-

- (0/2)

+

- (0/3)

+

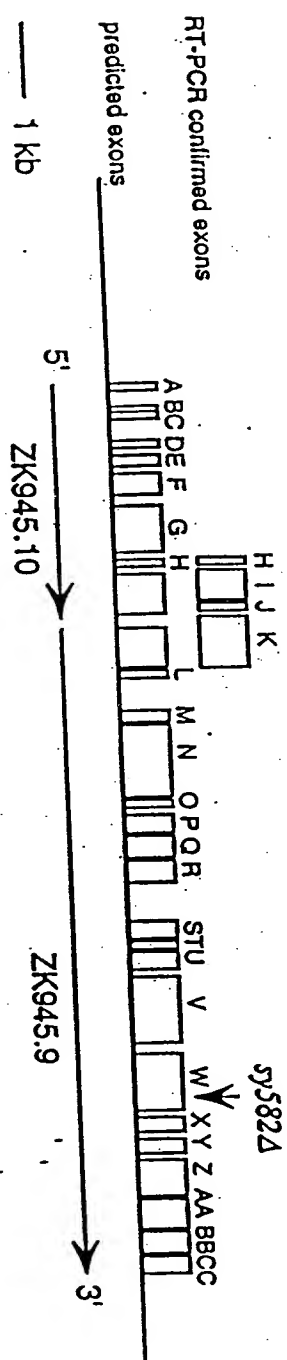
- (0/3)

- (0/2)

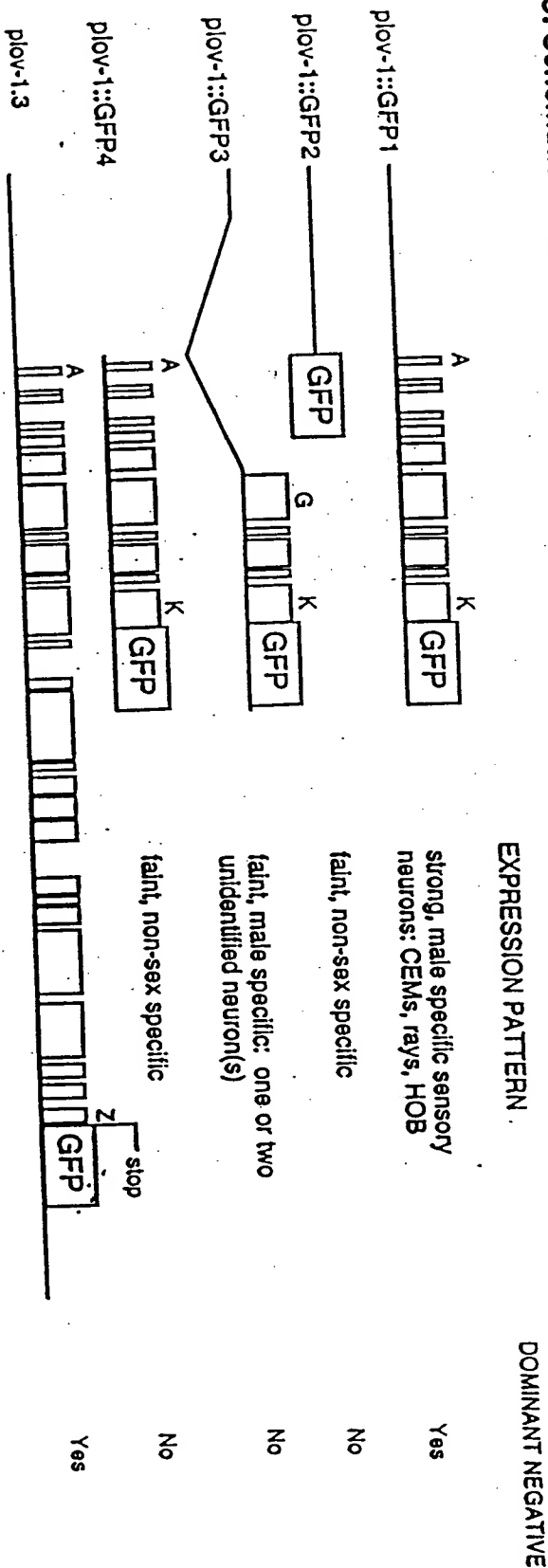
- (0/2)

FIGURE 2B

B. *lov-1* gene structure: 16.7 kb rescuing clone



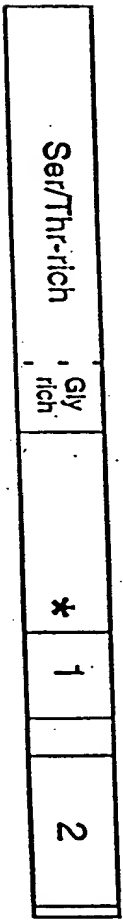
C. Schematic of GFP fusion constructs and expression data



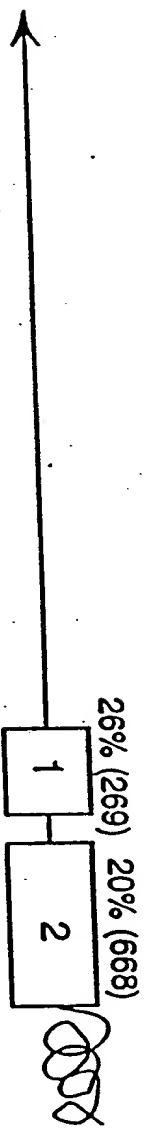
09479467.010600

# D. LOV-1 structural features and sequence homologues

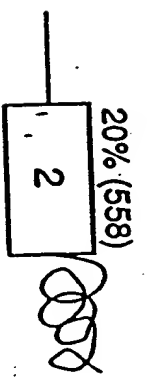
LOV-1



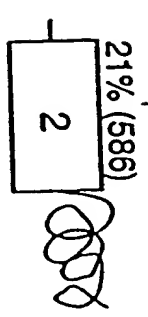
PKD1



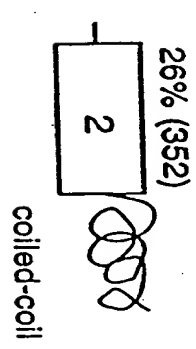
PKD2



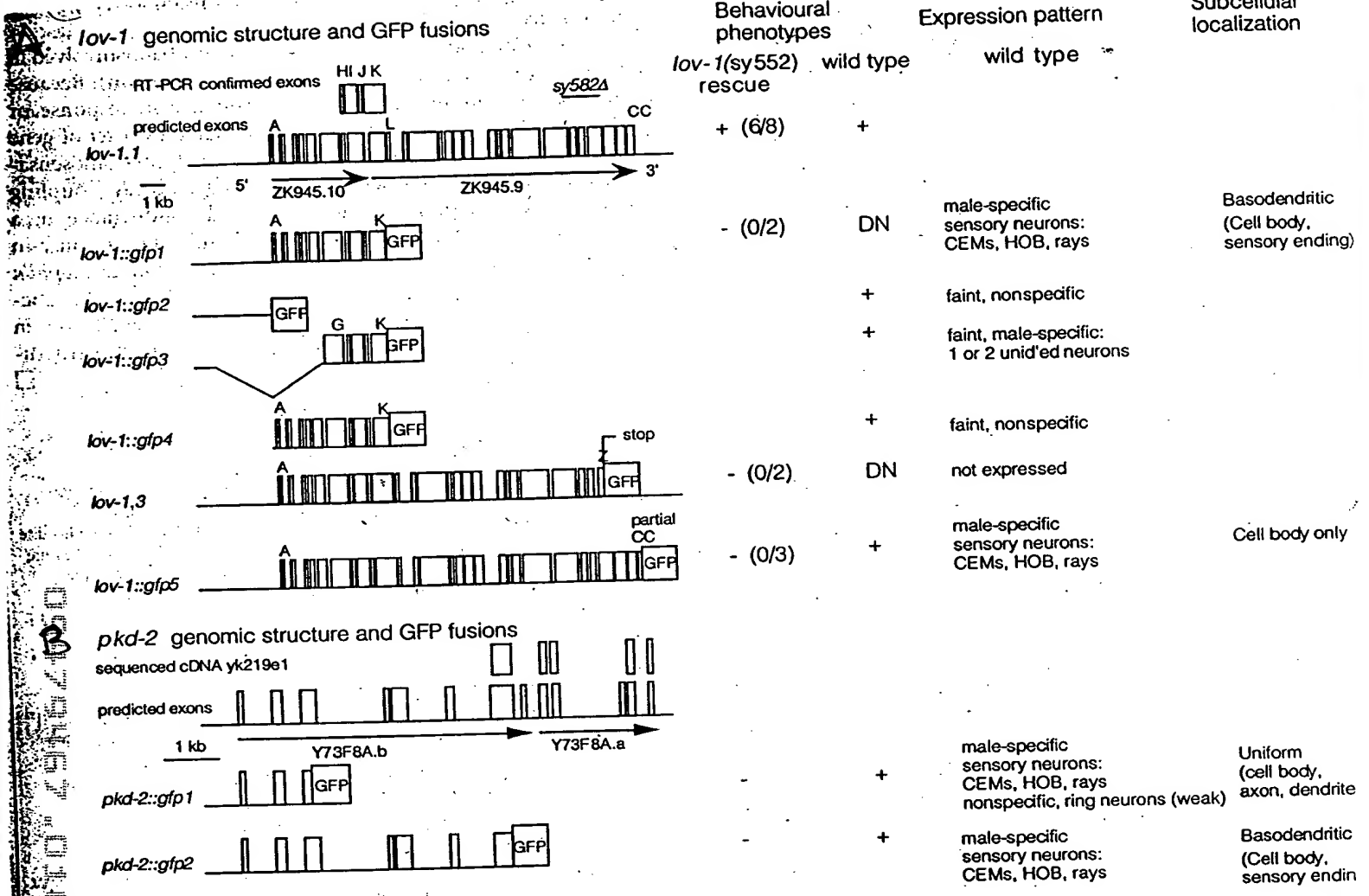
PKDL



Y73F8A.B+A (913 aa)



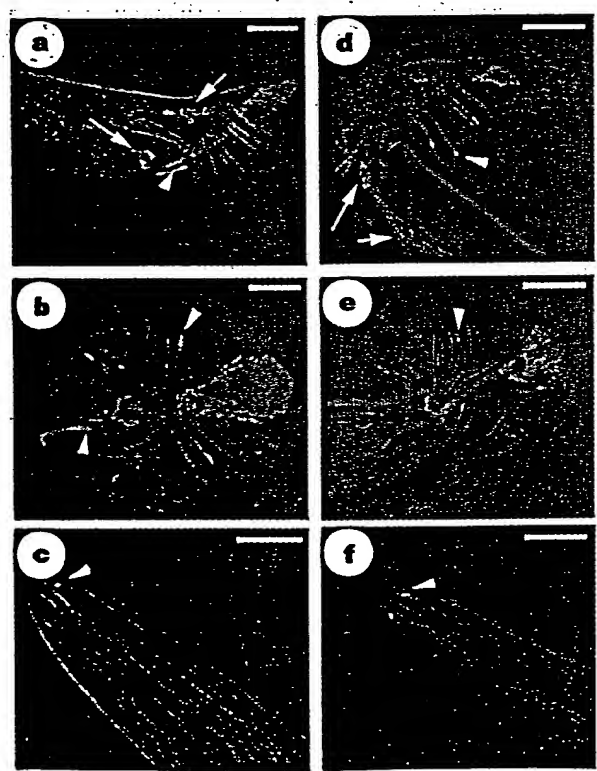
F16.3



**Figure 3** *lov-1* and *pkd-2* genomic structures, constructs, rescue data and expression patterns. The line above the *lov-1* gene indicates the 1,055-bp deletion in *lov-1(sy582Δ)*.

Numbers in parentheses indicate the ratio of rescuing stable lines to the number of stable lines examined. DN, dominant negative.

F16.4



**Figure 4** LOV-1::GFP1 and PKD-2::GFP2 are colocalized to adult male sensory cell bodies and dendrites. The spicules, hook structure and posteriormost fan autofluoresce. Arrows, neuronal cell bodies; arrowheads, dendrites or cilia. Images (merged DIC and fluorescence) were obtained using confocal microscopy. a-c, *lov-1::gfp1*. a, HOB and ray cell bodies (arrows), HOB dendritic process (arrowhead). b, HOB and ray process 5 (arrowheads). c, Ciliated endings in nose tip from male cephalic CEM neurons (cell bodies not shown). d-f, *pkd-1::gfp2*. d, Ray cell (arrow) and ray process 2 (arrowhead). e, Ray process 5 (arrowhead). f, Male cephalic CEM ciliated endings (arrow). Scale bar, 20 μm.